

**AMENDMENTS TO THE SPECIFICATION**

Please amend the specification as follows:

Please replace the Abstract as follows:

Abstract

An encoding device for differential encoding/decoding a plurality of pieces of position information, represented in a rational number and arranged in the order of magnitude, includes a position information rearranging unit. The position information rearranging unit rearranges the plurality of pieces of position information in accordance with a predetermined order relationship. In the same way as position information in integer representation is encoded, the plurality of pieces of position information rearranged in accordance with the predetermined order relationship can be difference encoded.